Washington's Transportation Plan

Cross-Cascades Corridor Analysis Work Plan

By

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Transportation Planning Office

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1. STUDY OVERVIEW

1.1 INTRODUCTION

The Washington State Department of Transportation (WSDOT) is conducting a comprehensive update of Washington's Transportation Plan (WTP). One element of this update is to identify and plan for WTP corridors of statewide and regional significance. The corridor planning effort is designed to help WSDOT and regional stakeholders better understand and monitor the relationship between specific corridor investments and the desired outcomes of the Washington Transportation Plan. An example of an outcome would be a reduction in travel delay *(congestion relief)* for freight and goods and the traveling public.

WSDOT has identified the desired outcomes expected from successful implementation of the WTP, and specific service objectives have been developed for each outcome. Given currently reduced state funding resources, every transportation investment decision becomes critical. The need for a clear understanding of the modal investment choices, and the linkage between each investment decision and impact on our Communities, Economy, and the Environment *(Vibrant Communities, Vital Economy, and Sustainable Environment)* is at its highest level.

The Cross-Cascades Analysis work effort will be focused on analyzing statewide travel, and it will be directly linked to WTP efforts that have applied the WTP's travel delay methods to corridors. The travel delay methods and its results were developed through a separate work element of the WTP that is implementing the *Congestion Relief Policy*.

The Cross-Cascades Analysis work effort will also build on past and present regional corridor planning efforts such as the Mountains to Sound Greenway Corridor Management Plan (MTSG-CMP), Snoqualmie Pass traffic management project development efforts, Intelligent Transportation Systems (ITS) developments and other regional corridor planning studies developed by Regional Transportation Planning Organizations (RTPOs).

For the purpose of this work plan, the term "corridor" refers to the geographic area that contains the three primary routes *(facilities/modes)* that accommodate statewide travel, including highway, rail and air routes (see definitions).

The Interstate 90 and SR 2 highways and the Burlington Northern Santa Fe (BNSF) Rail lines are among the most vital corridors to Washington State's economy and quality of life. These east/west routes accommodate the movement of freight and goods, people, automobiles, rail passengers, ferry users, tourists, and commuters. This work plan includes specific work elements for these routes in order to achieve a coordinated development plan, both near term and well into the future.

The Cross-Cascades Analysis will also serve as a template for future analyses in other important statewide corridors. Eventually it is envisioned that each statewide WTP corridor will be analyzed using this approach.

The Cross-Cascades Corridor Analysis is planned in two phases:

1) **Data collection and tool development phase** *(what information is needed for the analysis and what analysis tools will be used),* and

2) **Corridor alternatives analysis phase** *(what modes make sense and to what extent are enhancements to these modes necessary to meet the needs of transportation system in the future).*

1.2 STUDY BACKGROUND

In early 2000, WSDOT's Transportation Planning Office developed a work plan and charter for a focused effort to provide background information and develop a draft work plan for a statewide corridor analysis for the movement of people and goods. Initially, the I-5 and I-90 corridors were identified as the primary candidates for a statewide corridor analysis.

WSDOT subsequently utilized an existing on-call consulting contract to obtain professional assistance in developing the work plan. The consultant effort consisted of RTPO and WSDOT Region Planning Manager interviews covering all WSDOT regions and MPO/RTPO groups along both the I-5 and I-90 corridors. The effort was designed to provide direct feedback on the proposed project scope. The interviews helped identify WSDOT's partners' needs and expectations for a statewide corridor analysis, and it also provided information on the WTP process.

The findings from regional stakeholder interviews and scoping discussions are provided in summary form as an attachment to this work plan. Following the scoping interviews, the following draft work plan, focused on the Cross-Cascades Corridor, was developed.

1.3 SELECTION PROCESS FOR CONSULTANT ASSISTANCE FOR THE CROSS-CASCADES CORRIDOR ANALYSIS

WSDOT Transportation Planning Office is now initiating a process through the WSDOT Consultant Services Office to select a consultant to perform the Cross-Cascades Corridor Analysis. Potential participants in consultant selection may include WSDOT Executive Guidance Committee members, e.g., Leonard Pittman, SC Regional Administrator; Jim Slakey, PT&R Modal Director; and Paula Hammond, Highways and Local Programs Assistant Secretary; as well as other stakeholders. WSDOT will also establish an Advisory Review Group (ARG) to assist in the process.

2. WORK PLAN

PHASE I: DATA COLLECTION AND TOOL DEVELOPMENT

Work Element 1.1 Background Research: review existing plans and data

Objectives:

- Develop a clear understanding of the state's role and corridor stakeholder roles in corridor planning and management.
- Develop a clear understanding of the relationship among previous plans, on-going planning efforts, and the WTP Corridor planning effort, including oversight responsibilities and governance.

Product: Technical memorandum which includes related planning *(e.g., Mountains to Sound Greenway, East King County needs analysis, I-405 Corridor Study, etc.),* and data collection efforts *(e.g., Eastern Washington Intermodal Transportation Study, HDR's Legislative Transportation Committee's (LTC) Study of Columbia/Snake river draw down impacts on highways and roads)* as to what relevant data and analysis can be applied to the Cross-Cascades Analysis.

Activities:

1) Review existing state and regional transportation plans related to I-90, SR 2, BNSF rail routes, and aviation;
2) Identify and review all current planning efforts related to the corridor (e.g., East King County analysis, I-405 Corridor Study, MTSG, EWITS, South Central Region's I-90 Snoqualmie Pass Design), especially as they relate to the whole Cross-Cascades movement of people and goods;
3) Identify and review all public and private financing plans and options for each corridor;
4) Prepare a plan for strategic coordination with other on-going planning effort;
5) Summarize work element activities in a technical memorandum.

Work Element 1.2 Develop Agency and Public Involvement Plan

Objective: To ensure WSDOT partners, stakeholders and the public are provided the opportunity to be aware of the corridor planning effort, and be given the opportunity to provide input in the development of the corridor plan.

Product:

1) Agency and public involvement plan.
2) Cross-Cascades Corridor web page

Activities:

1) Access WSDOT's stakeholder mailing list *(internal WSDOT staff, MPO/RTPO/Local Agencies staff and elected officials, regional port authorities),*

2) Conduct key person interviews,

3) Augment WSDOT TPO mailing list *(interest groups, [Washington Truckers Association, AAA, etc.], civic organizations),*

4) Outline work program process, schedule, and deliverables with decision points and input points clearly identified,

5) Prepare and maintain a Cross-Cascades Corridor web site(s) for internal communications and sharing of work products, and for stakeholder/public input and access to information,

6) Consider the appropriateness of technical and/or policy advisory committees.

WSDOT believes that success in accomplishing the study objectives, and the preparation of clear and generally accepted products, depends on a shared understanding of the roles, responsibilities and needs of those parties involved in this and other related transportation improvement efforts. This may be only understood by developing consent on the approach and specific work tasks for the Cross-Cascades Analysis corridor.

Work Element 1.3 Planning Model Development

Objective: Develop an interregional multimodal forecasting planning model or method that may be used to analyze the feasibility and effectiveness of various modes in addressing future travel demand. These tools shall be applicable to future WTP Corridor Plans.

Product:

1) Interregional multimodal forecasting planning model or method

2) Memorandum summarizing key elements of planning model or method

Activities: Detailed activities, including data needs, to be determined with assistance from a technical advisory review group that will include MPO/RTPOs. Example activities may include creating a multimodal choice tool based on measures of

effectiveness established through the WTP update process, or the identification of an alternative forecasting method that can be uniformly applied.

Work Element 1.4 Data Gathering and Collection

Objective: Gathering and collecting the necessary data to conduct this statewide corridor analysis.

Products: A data dictionary for the Cross-Cascades Analysis

Activities:

1) Review, refresh and utilize the EWITS data set for the calibration of a statewide *(interregional)* travel forecasting model,

2) Augment EWITS data with additional data collected by other sources such as the recent studies of Columbia/Snake river drawdown impacts on highways and roads,

3) Collect any additional origin/destination data necessary for the purposes of this analysis.

Work Element 1.5 Benefit Cost Analysis of ITS travel time data collection methodologies

Objective: Analyze the applicability and benefits of applying ITS systems for cross-Cascades corridor planning.

Product: Benefit/Cost Analysis report of ITS methods for the Cross-Cascades Corridor.

Activities:

- Determine the benefits and costs of applying one of a number of different ITS applications to collect real time travel time, delay and speed. *(E.g., Automated Vehicle Identification (AVI) technology, Global Positioning Systems etc.),*
- Compare alternative technologies against existing methods that "derive" travel time from existing data,
- Make a recommendation as to whether any alternative methodology will be cost effective for the intended purposes,
- Prepare draft and final B/C Analysis reports
- Present findings to the WTP Executive Guidance Committee.

Work Element 1.6 Travel Market Analysis

Objective: Define existing and future conditions for all relevant modes in the corridor

Products:

- Existing corridor conditions analysis and report,
- Future needs analysis and report

Both of these products rely on aggregating and evaluating the travel delay deficiencies from the WTP congestion relief work element. These products shall include graphic displays (potentially using Geographic Information Systems technology compatible with WSDOT's existing GIS program) depicting the existing and "no action" forecasted conditions no-build corridor performance report (using travel time, delay & speed performance measures).

Activities:

1) Working with WSDOT's Travel Delay sub-group, map existing and future deficiencies within the corridor,
2) Create draft and final written reports to illustrate these conditions.

2.1 PHASE 2 CORRIDOR ANALYSIS

Work Element 2.1 Corridors Conditions Analysis

Objective: To develop a clear understanding of the performance conditions in each corridor, as measured against WTP Service Objectives. The initial emphasis areas to be addressed through the Corridor Analysis include Systems Operations/Maintenance, System Preservation, Congestion Relief, Seamless Connections, Effective and Competitive Freight Movement, Support General Economic Prosperity, and Continuous Reduction of Injuries, Fatalities and Risk. The corridor conditions under these measures will form the basis for comparison against future corridor conditions.

Products:

- Methodologies for evaluating the conditions within the corridor for three emphasis areas where methodologies have not been developed (Seamless Connections, Effective and Competitive Freight Movement, and Support General Economic Prosperity)
- Methodology Report

- Existing Conditions Report

Activities:

1) For each modal route, research available corridor mapping, photography, and graphics availability, and prepare baseline mapping information,

2) Review WTP methodologies developed for service objective outcomes, review other available corridor methods and adapt or revise for use at the full-corridor level,

3) Gather available information on corridor segments, building on WTP Corridors efforts, augmented by additional information on rail segments,

4) Inventory/assess available information on the following elements by building a relational database *(with a Geographic Information Systems [GIS] application)*

    - special needs transportation programs and funding needs,
    - existing levels of corridor congestion using WTP Travel Delay Methodology, including impact on person movement and freight as measured by travel time, delay, speed, and reliability *(including modifications to WTP delay method for rail applications),*
    - modal travel options, performance and effectiveness for person and freight movement,
    - modal connectivity at interface locations, (i.e., seamless connections) for freight and passenger mobility,
    - route emergency response systems,
    - existing and future land uses influencing the routes and overall corridor, with a more detailed focus adjacent to interchanges.

5) Identify topic, data and timing links with the WTP decision-making process

6) Inventory the number and duration of:

    - closures or major delays on each corridor *(e.g., snow/avalanches, flooding, major accidents),*
    - rail line delays in adjacent corridors, including those due to weather,
    - unscheduled grain barge delays in the Columbia River system, and

- others as identified by stakeholders.

7) Inventory/assess:

   - OFM economic data tying geographic location to corridor mobility deficiencies,
   - the Office of Community Development (OCD)/WSDOT traveler information availability, for both ease of directional information and to tourist activity centers,
   - available air quality information in each route, with specific focus on urbanized areas and existing and potential non-attainment areas,
   - WSDOT information related to water quality discharges from each route,
   - route facility relationships to watershed resource inventory areas, including identified environmental retrofit needs,
   - the extent of materials and resources used in each route on an annual basis to provide a baseline for measuring future improvements.

8) Prepare Draft and Final Existing Conditions Reports

9) Prepare Draft and Final Methodology Reports

Work Element 2.2 Future Corridor Performance

Objective: To provide a shared view of how each route should perform in the future *(as part of the whole east/west movement in the Cross-Cascades Corridor)*, the Washington State Transportation Commission (WSTC), WSDOT and all stakeholders need the background provided in the prior work elements. From that basis, WSDOT's role in planning and developing improvements to the routes must be clearly understood, as well as the role of the stakeholders. At this point in the planning process, the corridor analysis must have clearly defined boundaries, and a purpose and need for the plan must be established.

It is clear that stakeholders and decision makers should share a common understanding of how the corridors *(and its routes)* will perform under a "No-Build" scenario, and under the existing planned improvements identified in the existing modal elements of the Washington's Transportation Plan *(e.g., State Highway Systems Plan)*. These two analyses will provide a comparison for assessing the relative performance of investments that may result through this planning effort.

Product: Needs Assessment Report

Activities:

1) Develop Corridor needs or problem statements for the corridor,

2) Define corridor boundaries and review segment choices for analyzing investment opportunities and modal choices,

3) Analyze each corridor segment utilizing the relevant service objective performance measures on a "statewide" basis, and based on the demand information prepared in work element 1.6,

4) Identify service objective deficiencies by segment (highway and rail segments). For the congestion relief objective, particular attention should be paid to corridor "pinch/choke points." This method should be coordinated with WTP congestion relief analysis efforts.

5) Develop scenarios under which individual and or shared responsibilities are clearly defined. Select a preferred scenario,

6) Prepare Draft and Final Needs Assessment reports.

Work Element 2.3 Alternatives to Address Corridor Deficiencies and Performance Outcomes

Objectives: To identify the range of options for developing mobility improvement strategies and packages, and options for addressing all other service objective deficiencies.

Product: Alternative Solutions Report

Activities:

1) Based on existing conditions/deficiencies and stakeholder input, identify "Early Action" improvement alternatives and financing options,

2) Develop alternatives for addressing each service objective deficiency. Particular attention will be placed on options for addressing travel delay deficiencies,

3) Draft Screening Criteria for alternatives evaluation.

4) Prepare Draft and Final Alternative Solutions reports.

Work Element 2.4 Evaluate Feasible Alternatives

Objective:

- Consider the range of improvement options and "packages". Each alternative developed will be evaluated based on the service objective performance measure methodologies available or developed in Work Element 2.1.

- Evaluate and define which improvement options are reasonable from policy and economic or cost effectiveness perspectives, considering the range of corridors used for cross-Cascades movement of people and goods; evaluate the extent to which they can be enhanced to meet WTP Outcomes and Service Objectives,

- Based on the planning tools developed in Phase 1, the most promising alternatives will be described in planning-level detail for consideration by WSDOT, service providers, and project stakeholders.

Product: Report of potential improvement options.

Activities:

1) Develop range of improvement options with stakeholders, and analyze using the methods, data and tools developed in Phase 1, and develop a draft corridor development plan.

2) Conduct a preliminary screening of improvement options for consideration,

3) Review results with WSDOT, project stakeholders and the public using a variety of tools (to be determined) to share the results,

4) Based on input from participants, refine screening process to identify the most reasonable options,

5) Prepare draft and final technical report outlining improvement options, the evaluation process, and results.

Work Element 2.5 Corridor Development and Action Plan

Objective: Provide final documentation for inclusion in the Washington Transportation Plan (if feasible within the WTP timeline), and regional plans adjacent to the corridor. The plan will include near term action items, the identification of Biennial program actions, a six year transportation improvement plan, a 20-year action strategy, and an outline of longer term projects for consideration should funding levels change. An Executive Summary will be prepared, and the corridor plan

results presented to WSDOT's Executives, the Transportation Commission, the House and Senate Transportation Committees, stakeholders and participants.

Product: A Corridor Development Plan describing the performance of future scenarios overall and by service objective, including implementation responsibilities in each corridor.

A**ctivities:**

1) Prepare an outline and Table of Contents for the corridor plan,

2) Draft Corridor Plan for the Cross-Cascades Corridor, circulate with stakeholders and make available on project web site(s),

3) Finalize plan based on stakeholder input,

4) Prepare an Executive Summary for the corridor plan,

5) Make the plan available via project web-site and through printed media,

6) Prepare final Corridor Development Plan,

7) Prepare presentations and offer to WSDOT Executives, Transportation Commission, Legislature, and Stakeholders along the corridor.

Estimated Project Schedule

The general time line is as follows:

Phase 1: October 2000 - February 2001

Phase 2: November 2000 - May 2001

Further issues beyond phase 2 will be addressed in the 2001/2003 biennium.